

### ABSTRACT

An AC voltage generated by an AC power source 1 is rectified by a full-wave rectifying circuit 2, which generates a rectified voltage. An internal regulator 33 performs waveform shaping of the rectified voltage. A comparator 42 compares the 5 rectified voltage output from the internal regulator 33 with a reference voltage V1 and detects a period in which the rectified voltage exceeds the reference voltage V1. According to an output signal of the comparator 42, a determination signal generation circuit 50 determines the power source voltage supplied from the AC power source 1 and generates a determination signal. Accordingly, there is no need of a capacitor, etc. for 10 detecting the peak value of the rectified voltage, and it is possible to reduce the size and cost of an AC voltage detection circuit.